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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,267	01/06/2005	Hiromi Sugimoto	040302-0424	2802
23428 7590 05/12/2009 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007				
EXAMINER				
LEE, CYNTHIA K				
ART UNIT		PAPER NUMBER		
1795				
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05/12/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/520,267

**Applicant(s)**

SUGIMOTO ET AL.

**Examiner**

CYNTHIA LEE

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date: \_\_\_\_\_

***Response to Amendment***

This Office Action is responsive to the amendment filed on 3/2/2009. Claim 11 has been added. Claims 1-11 are pending. Claim 10 is withdrawn from further consideration as being drawn to a non-elected invention. Applicant's arguments have been considered. Claims 1-9 and 11 are finally rejected for reasons necessitated by applicant's amendment.

The 35 USC 112, 2<sup>nd</sup> paragraph rejection has been withdrawn.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Chan (US 7157177).

Chan discloses an electrode comprising porous bulk matrix regions disposed across a top surface of substrate with acicular pores that extend through the substrate. The inner pore surfaces have a conformal electrically conductive layer and catalyst particles. See Abstract.

Regarding claim 2, it is noted that the particles fully cover the surface as shown in fig. 7.

Regarding claim 3, the particles are made of metal oxides (3:52-55).

Regarding claim 4, the desired film thickness may be built up by repeating the process cycle many times (7:20-23).

Regarding claim 6, a silicon film is formed by anodic etching (6:19).

Regarding claim 7, it is noted that the porous metallic plate is conductive and therefore, conducts electricity.

Regarding the limitation "substantially smooth" in claim 1, the Examiner notes that absent any specifics or the degree of smoothness, it is noted that the plate 220 in fig. 2B reads on Applicant's "substantially smooth" since no roughness is shown in the figure.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chan (US 7157177) as applied to claim 1, in view of Ovshinsky (US 7226675).

Chan discloses that the substrate is made of nickel, but does not disclose the substrate being a material as claimed in claim 8. Ovshinsky teaches an electrode

substrate made of copper (12:65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the nickel substrate of Chan with the copper substrate of Ovshinsky since it has been held by the court that the selection of a known material based on its suitability for its intended use is *prima facie* obvious. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chan (US 7157177) as applied to claim 1.

Chan discloses that the substrate thickness is between 75-2000 microns (3:45). In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists, see MPEP 2144.05.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chan (US 7157177) as applied to claim 1, in view of Hampden-Smith (US 7255954).

Chan discloses metal oxide particles, but does not disclose the compounds as claimed in claim 11. Hampden-Smith teaches electrocatalyst particles comprising alumina, ceria, and titania (11:25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the particles of Hampden-Smith to the substrate of Chan for the benefit of controlling the morphology of the catalyst particles, as taught by Hampden-Smith (11:50-55).

### ***Response to Arguments***

Applicant's arguments regarding prior art Koehring are persuasive and has been withdrawn.

Applicant's arguments regarding prior art Chan have been fully considered but they are not persuasive.

*Applicant argues that Chan does not disclose the plurality of through holes which form openings in an upper surface and a lower surface of the porous metallic plate (emphasis in original).*

The Examiner respectfully disagrees. It is noted that that through holes 240 which form openings in an upper surface and a lower surface of the porous metallic plate 220. See fig. 2B.

Regarding Applicant's argument on the limitation "substantially smooth" in claim 1, the Examiner notes that absent any specifics or the degree of smoothness, it is noted that the plate 220 in fig. 2B reads on Applicant's "substantially smooth" since no roughness is shown in the figure.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Lee whose telephone number is 571-272-8699. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cynthia Lee/  
Examiner, Art Unit 1795

/PATRICK RYAN/  
Supervisory Patent Examiner, Art  
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